

Reproductive patterns in chromosomally distinct races of *Phyllodactylus marmoratus* (Lacertilia: Gekkonidae) in south-western Australia

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Abstract

An examination of 677 museum specimens of three chromosomal races of *Phyllodactylus marmoratus* in south-western Australia showed different reproductive patterns in the two adjacent and abundant races, $2n=34$ and $2n=36$. Data for the $2n=32$ race are very limited.

Females of all races were gravid in spring, but yolky follicles may occur in all seasons except mid-summer; the $2n=34$ race also had gravid females in winter. Females with both eggs and yolky follicles were recorded in $2n=34$ and $2n=36$ races; over 30% of females had single egg clutches. Males of the $2n=36$ race had largest testicular volumes in summer-autumn, a pattern similar to previous studies; males of the $2n=34$ race had maximum testicular volumes in spring.

Introduction

The gekkonine gecko *Phyllodactylus marmoratus* has a wide distribution across southern Australia, a distribution that includes four discrete chromosomal races (King and Rofe 1976, King and King 1977).

In south-western Australia three races, $2n=36$, $2n=34$ and $2n=32$, occur along the southern and western coasts in the dominant winter rainfall areas. The $2n=32$ race is confined to a small area around Broke Inlet, central to the distribution of the $2n=34$ race that occurs from the Abrolhos Is in the north around to Cape Arid in the east. The $2n=36$ race extends from east of Cape Arid along the coast and into South Australia (King and King 1977).

An examination of reproduction in *P. marmoratus* was undertaken by King (1977) in South Australia, a region representing the $2n=36$ and $2n=36$ ZZ/ZW chromosome races (King and Rofe 1976). This histological assessment of the male and female reproductive cycles showed a reproductive strategy based on delayed fertilisation with females employing oviducal sperm storage over winter. A detailed analysis of meiosis in males revealed that chiasmata frequency was seasonally

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